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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/815,164	03/31/2004	Min Zuo	121036-067	8207
35684 - 7590	01/31/2006		EXAMINER	
BUTZEL LONG 350 SOUTH MAIN STREET SUITE 300 ANN ARBOR, MI 48104			BISSETT, MELANIE D	
			ART UNIT	PAPER NUMBER
			1711	

DATE MAILED: 01/31/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/815,164

Applicant(s)

ZUO ET AL.

Examiner

Melanie D. Bissett

Art Unit

1711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 28 November 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☒ None of:
- 1) ☒ Certified copies of the priority documents have been received.
  - 2) ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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1. The prior art rejections have been altered, as reflected below. The double patenting rejections have been withdrawn based on the applicant's arguments.

***Claim Rejections - 35 USC § 103***

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
3. Claims 1-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chen et al. in view of Nippon Mektron, Limited. Chen et al. (US 5,290,909) can be found on the applicant's Form PTO-1449.
4. Chen discloses polyimide film compositions applied to metallic foil substrates comprising the reaction product of the applicant's claimed components (B), (C), (D<sub>1</sub>), and (D<sub>2</sub>) (abstract; example 1). Examples show the applicant's claimed ratios of (C) to (D<sub>1</sub>) or (D<sub>2</sub>) (examples 1-2). The examples also teach the claimed method of applying a polyamic acid in a polar solvent, drying the film, and heating the film to form the polyimide. Flexible circuit boards are noted (col. 5 lines 17-25). However, the reference does not teach a mixture of dianhydride monomers. Nippon Mektron teaches copolyimides, where mixtures of dianhydrides are used. Component (A) is used with a second dianhydride similar to (B) and reacted with (C) to enhance solubility of the resulting polyimide (col. 2 lines 14-21; examples). Thus, it would have been prima facie obvious to combine components (B) and (A) in the applicant's claimed ratios to provide a finished polyimide film with enhanced solubility.

***Response to Arguments***

5. Regarding the applicant's arguments of unexpected results, it is noted that the comparative example does not specifically teach that the absence of (A) provides any improved results since the comparative example is not a direct comparison with the working example. In comparative example 5, three diamines have been used, where only two diamines have been used in example 5. Thus, the results are not necessarily dependent on the dianhydride component.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Melanie D. Bissett whose telephone number is (571) 272-1068. The examiner can normally be reached on M-F 8-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on (571) 272-1078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Melanie D. Bissett  
Primary Examiner  
Art Unit 1711

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